

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION II

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SUBJECT: Data Validation Completion for Bayonne Barrel and Drum Site, Newark, New Jersey

FROM: Karen Taylor, Chemist *KT*  
Hazardous Waste Support Section (2DESA-HWSB)

TO: Joseph Cosentino, Project Manager  
Enforcement Management Team (2ERRD-RAB)

Please be advised that the Hazardous Waste Support Section has completed review of the data for the Bayonne Barrel and Drum site. The data consisted of four soil samples for inorganic analysis, five soils samples for organic analysis, and 18 soil samples (selected from a total of 99 samples) for dioxin analysis. A summary of the analytical results follows. All data are valid and acceptable except those analytes rejected ("R"). Results which are rejected are not considered useable as a basis for decision making. Results qualified as estimated ("J") are still useable.

**Inorganic Data**

Aluminum was qualified as estimated ("J") due to matrix spike and matrix spike duplicate quality control (QC) limit exceedance. Since the results are flagged as estimated, they are considered useable.

Beryllium, silver, and zinc were qualified as estimated ("J") because ICP serial dilution percent differences fell outside the acceptable criteria. Results flagged as estimated are considered useable.

**Organic Data**

Percent differences between the initial and continuing calibration responses exceeded QC limits for and the following analytes which were qualified as estimated ("J"): bromomethane, acetone, 1,2 dichloroethane, 2-butanone, 2-hexanone, 4-methyl-2-pentanone, carbon disulfide, bis(2-chloroethyl)ether, 1,2-dichlorobenzene, 4-methylphenol, n-nitroso-di-n-propylamine, naphthalene, 2-methylnaphthalene, acenaphthylene, 3-nitroaniline, dibenzofuran, fluorene, 4-chlorophenyl-phenylether, 4-nitroaniline, carbazole, phenanthrene, butylbenzylphthalate, 3,3'-dichlorobenzidine, hexachloroethane, 4-nitrophenol, indeno(1,2,3-cd)pyrene, bis(2-chloroethoxy)methane, hexachlorocyclopentadiene, 4-bromophenyl-phenylether, hexachlorobenzene, 2,4-dinitrophenol, benzo(k)fluoranthene, dibenz(a,h)anthracene, and benzo(g,h,i)perylene. This is a measure of the instrument's daily performance and exceedance of this specification may affect quantitation.

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The following analytes have internal standards that exceeded criteria and were qualified as estimated ("J"): di-n-octylphthalate, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, dibenz(a,h)anthracene, benzo(g,h,i)perylene. Internal standards detect instability in instrument sensitivity and response.

### Dioxin Data

Internal standard percent recoveries were below the analytical method criteria. The following associated non-detect results were "R" qualified and positive results were "J" qualified: 2,3,7,8-TCDF, 3,4,7,8-PeCDF, 3,7,8-TCDD, 1,2,3,7,8-PeCDD, 1,2,3,4,7,8-HxCDD, 1,2,3,6,7,8-HxCDD, 1,2,3,7,8,9-HxCDD, 1,2,3,7,8-PeCDF, 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8,9-OCDD, 1,2,3,4,7,8-HxCDF, 1,2,3,4,6,7,8-HpCDF, 1,2,3,4,6,7,8,9-OCDF, 1,2,3,4,7,8-HxCDD, 1,2,3,6,7,8-HxCDD, 1,2,3,7,8,9-HxCDD, 1,2,3,6,7,8-HxCDF, 2,3,4,6,7,8-HxCDF, 1,2,3,7,8,9-HxCDF, and 1,2,3,4,7,8,9-HpCDF. Totals for TCDD, TCDF, PeCDD, PeCDF HpCDD, HxCDF, HpCDF, and HxCDD were qualified as estimated ("J"). Internal standards measure instability in instrument sensitivity and response.

Recovery standard area counts exceeded upper limits, resulting in the qualification of the following analytes as estimated ("J"): 1,2,3,4,7,8-HxCDD, 1,2,3,6,7,8-HxCDD, 1,2,3,7,8,9-HxCDD, 1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8,9-OCDD, 2,3,7,8-TCDF, 1,2,3,7,8-PeCDF, 2,3,4,7,8-PeCDF, 1,2,3,4,7,8-HxCDF, 1,2,3,6,7,8-HxCDF, 2,3,4,6,7,8-HxCDF, 1,2,3,4,6,7,8-HpCDF, 1,2,3,4,7,8,9-HpCDF and 1,2,3,4,6,7,8,9-OCDF. Totals for TCDF, PeCDD, PeCDF, HxCDF, HpCDD, and HpCDF were qualified as estimated ("J"). Recovery standards are also used to assess instrument sensitivity.

Total TCDF, PCDF and PeCDF were qualified as estimated ("J") since there is an associated diphenyl ether interference. The interference may influence this value to be overestimated.

Peak resolution was poor for 2,3,7,8-TCDF, 1,2,3,7,8-PeCDF, 2,3,4,6,7,8-HxCDF, 1,2,3,4,7,8-HxCDD, and 1,2,3,7,8,9-HxCDF. 1,2,3,4,7,8-HxCDD and 1,2,3,7,8,9-HxCDF were qualified as "R" since they were reported as non detects and poorly resolved. The presence or absence of these analytes cannot be reasonably determined. 2,3,7,8-TCDF and 2,3,4,6,7,8-HxCDF, 1,2,3,7,8-PeCDF were qualified "J" since their reported values could be overestimated.

If you have any questions or require further information, please contact me at (732) 321-4436.

cc: Robert Runyon, 2DESA-HWSB  
Richard Salkie, 2DESA-RAB  
John Witkowski, 2ERRD-RAB